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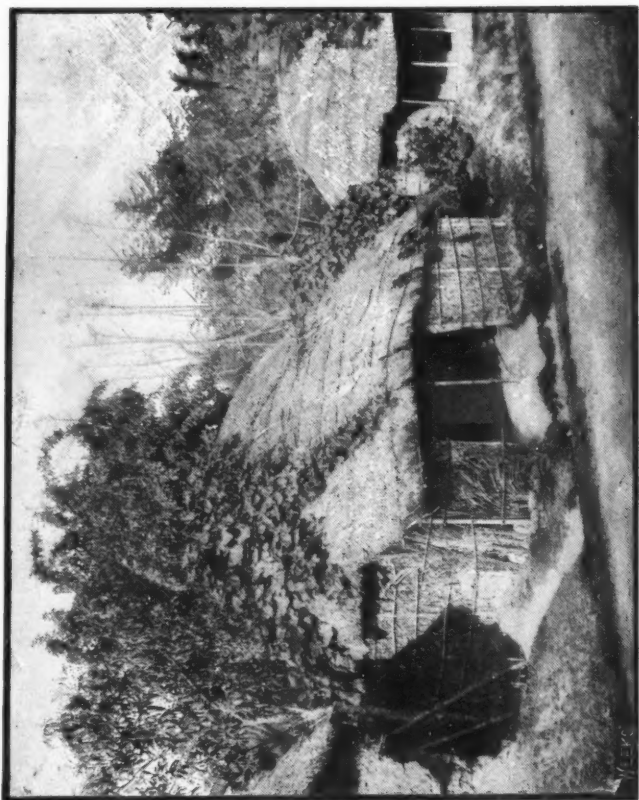
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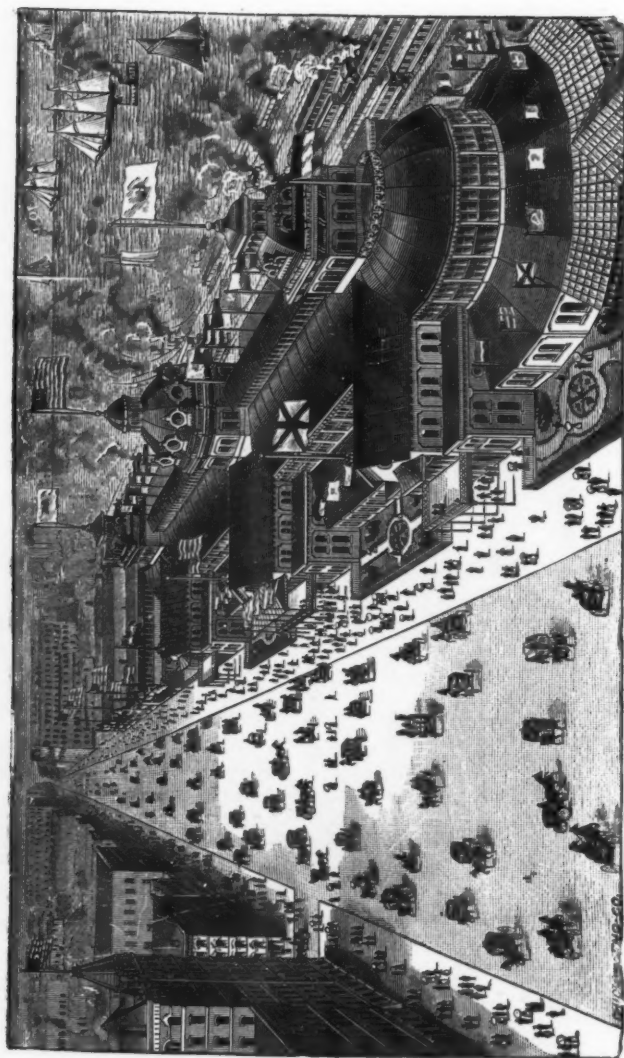
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AMERICAN JOURNAL OF PHOTOGRAPHY



THE AMERICAN JOURNAL OF PHOTOGRAPHY
PUBLISHED MONTHLY
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BIRD'S EYE-VIEW OF THE CHICAGO EXPOSITION BUILDING, FROM LELAND'S HOTEL.
EIGHTH ANNUAL CONVENTION OF P. A. OF A., AUGUST 9-12, 1887.

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Architectural Photography

BY ELLERSLIE WALLACE.

The photographing of architectural subjects in general has been rightly classed among the easier departments of our art. Given a fine building standing in a favorable position for light, and the distance at which the camera must be placed, and it will be a simple matter to treat it, photographically. It will be seen, however, that, in speaking thus, we leave ourselves a large loop-hole to creep out of; for if we take the experience of operators who have worked in other lands, where architecture is a chief feature of the average street view, we will find that the work is often beset with trials and difficulties; and, on second thought, we can recall cases in this country where the subject has presented itself in anything but a favorable manner to the camera.

This leads us to the consideration of the first point in architectural photography—namely, the approach to the building. We believe that the great majority of subjects of this kind are best taken from the street, because the spectator is supposed to look at the building from this position. But to speak practically, it will often be impossible to carry this out, owing to crowds of people and vehicles, or to the fact of there being insufficient space around the building. This cramped-in and short approach to public edifices is even worse for the camera than for the eye of a critical observer, inasmuch as the photographer will

be driven to the use of wide-angle lenses, and find his perspective lines sadly forced and unnatural. In cities and towns where the streets run at right-angles, and the architectural subjects are built up close to the pavement line, it will often be quite impossible to obtain a view of the whole of even one of the facades. Sometimes an end, with a side seen in perspective along one of the streets, may be photographed; but the question may well be asked, whether the results will be worth anything; even for the common purposes of business advertisement, such prints will not be useful, just because the perspective, even if mathematically correct, will be false to the eye, thus making the view hardly recognizable. Anyone desirous of photographing the new Post-office in Philadelphia, would be met by a difficulty of this kind, while some of the handsome churches on north Broad street, having more space in front of and around them, would be easily taken.

Whether the building is to be considered as forming a part of a street view or not, will depend on the taste of the operator, and the general character of the view. Street views, as a class, will be more interesting if made instantaneously, so as to show the travel, and thus give life and animation to the picture. But when a large plate is to be used for some edifice that will arrest the attention at once, and keep it fixed, we believe that, so far from any gain to the picture, there would be positive loss if many figures were introduced; and, again, an instantaneous exposure would be very apt, indeed, to leave patches of crude, black shadow without detail. An exposure long enough to leave no doubled outlines from people, wagons, etc., but only a slight streakiness over those parts of the

foreground where the street was seen, would be preferable in almost every case.

Assuming that there is space enough about the building to enable the operator to take any position he pleases, the question now meets us, whether the camera should be placed near, or at a distance—a wide-angle lens, of course, being necessary in the former case. If the camera be set far away, and a long-focus lens be used, the picture will have a very natural and realistic appearance, and at times may even be tame, like an architect's plan. A closer position, with a wide-angle lens, while (as we have already hinted) not being so truthful perhaps, might give a more pleasing result. Thus, there will be ample opportunity for the operator to show his good taste.

Full sunlight proceeding sufficiently from one side or the other to throw shadows from the prominent or jutting portions, will almost invariably be the most pleasing. It has been well said that shadow is the "glory of the picture," and it also serves to "explain the lights." It is just this light that can but seldom be had on those portions of a building facing the north; so that if an overcast day be waited for, in order to be able to direct the camera southwards, the details will often be finely rendered, but the picture, as a whole, will be apt to look tame and flat, if compared with those made in sunlight. A partial remedy for this will be to make the negative rather denser than usual, so as to give a vigorous print with strong contrasts. It would be well, before determining upon the work, to see the building soon after sunrise, or just before sunset, particularly in the early summer months, as there will often be a weak, though beautiful, side sunlight on the northern front, for a brief time, early and late in the day.

The outfit for architectural photography will be much the same as for landscape. A swing-back will always be required, and if the camera is not square, but has to be reversed on the tripod for upright views, a double-swing must be adapted, so that high church spires, etc., may be included without tilting the camera and distorting the perpendiculars. When the swing-back

is used, care must be given to the focusing; as it will be necessary to raise the lens-panel, the centre of the defining power of the lens will, of course, be thrown down towards the foreground, leaving the tops of spires or towers in bad focus. The actual centre of the plate, or even a higher point, should then be chosen to focus upon, and a small stop be inserted to equalize the definition. The lenses used should always be rectilinear, single view lenses being seldom or never suited for this kind of work. The camera, also, should be carefully levelled in both directions, and mounted on a good, steady tripod.

All of our remarks, of course, apply to exteriors only. Interiors will be found to offer difficulties of another kind, which we cannot treat of here.

Expression in Portraits.

Stothard said, "There is nothing more difficult than to paint people doing nothing."

This is the daily, hourly task of the photographer, and yet he rarely seems impressed with the importance of the undertaking. In a brief forenoon, he will give you a dozen or twenty very glaring counterfeit presentments of the human face divine, and without the slightest compunction of conscience, nay, with a profound feeling of the sublimity of the occasion, write beneath his card, in beautiful scroll, "Artistic Photographer."

Did you ever stop to think that it is not sharpness or brilliancy or excellence of finish, or even softness of lighting and beauty of pose, which entitle you to this assumed title. You may have all these qualities in your work, and yet, if you have not expression, they profit you nothing for entering the kingdom of art.

How shall we attain to it? you ask. Our subjects are unpoetic, lack individuality, lack expression. How shall we call forth this quality from common-place people? We answer, this Stothard, whom we have mentioned, had the same sort of people to deal with, or he would not have given utterance to the words he did. All his work is direct from nature, not idealized.

Hogarth had even more difficult subjects to deal with than you have. In Stothard's picture of the procession of "Charity Girls," he was obliged, according to the terms of the contract, to make portraits of the foremost figures, therefore to show their faces and their individuality; yet he has overcome the difficulty with wonderful skill, and the work is really one of the most original and interesting pictures he ever painted.

One sometimes fears that the principles applicable to painting are a little too high for the range of photography. Maybe they are sometimes, but the attempt to reach the high mark is healthful exercise; and the results, though they fall short, will, nevertheless, be better than if we aim not at all.

But it is not our intention to worry you with any rules of art, or to ask you to apply them to secure beauty of expression, because we do not think all the art rules in the world will give you the faculty. We desire only to call your attention to a feature in the human face, which is, as the Bible puts it, a very "*unruly member*." Need we say—the mouth. Beware how you try to control it. Leave it rather to its own sweet will.

Every photographer has his own way of managing his sitter, but his way is generally to make the subjects as uncomfortable as possible. They have come to know this, and are generally so accommodating that they try to get in the uneasy frame of mind the minute they enter his studio. Their mouths becoming the silent utterers of their state of mind.

Of what help are the reassuring words, spoken with solemn accent: "Assume an agreeable expression"—"Try to look pleasant." This pleasant aspect becomes but a sort of mongrel smile.

Most men are fortunate in the possession of a beard and moustache, which hide the photographically acquired, or congenitally inherited, defects; therefore, their portraits are generally more agreeable in expression than the portraits of women.

The mouth plays the most essential part in the expression. The eyes which seem to smile or look sad, in reality do nothing

of the kind. The mouth is the key to interpret their feeling. The muscles which move the lips tell whether the eyes are joyous or sorrowful.

We all have seen those drawings in Bell's "Anatomy," which are so arranged that the lower half of the face can be covered with a slip, in which the mouth is a sad or laughing one, while the upper part remains the same. By this simple device, we may transform a sad and saintly madonna into a smiling nymph, in which the eyes twinkle with roguish delight. This beautiful play of the muscles of the mouth is so delicate that it at once responds to the sympathetic action of the mental condition, betrays the disposition, and so mirrors, if uncontrolled either by the will or other exciting cause, the true character of the person.

Hence, the action, if natural, is involuntary, and any endeavor to govern it by the will, shows at once upon the face, and we have that look of determination—that "screwing up to the sticking point" expression, which is generally called the photographic look.

Expression centres in the mouth. It is the feature for the photographer to exercise his skill upon. We are not going to give any instructions how to conquer it, because we do not know how. The action of the photographer's will would be as bad as the operation of the owners.

The only thing which seems proper to do, is to take away restraint of any kind, to relieve the model from the impression that he is the chief factor in the transaction.

If some photographer would have the sense to consign his position-chairs and his inquisitorial head-rest to the lumber room, there to feed oblivion with their decay, and make his operating room, not his reception room, look something like an artist's studio, it is possible the expression of his models might improve.

We have seen very happy expressions in photographs; and on inquiring, found that they were taken without head-rests, and without ceremony. The models were left to their own free will, or rather they were not told when the operation began or ended.

Our plates are so very sensitive that we need no longer summon the attention of the sitter, or announce, with majestic mien, "the exposure is now about to begin."

If a head is properly illuminated, less time will be required with a moderate light than when unevenly lit in a strong light, because a violent lighting gives the high lights the allopathic dose, and the shadows the homeopathic.

Finally, expression is very difficult to secure; but so is everything else which is worth anything. With all thy gettings, get expression.

JOHN BARTLETT.

Modification of the Alkaline Developer for Gelatine Plates.

The alkaline developers in general use for evoking the latent image in the photographic plate, consist essentially of an alkali and an organic substance, which has the property of reducing a salt of silver. It is evident that certain properties of the developer are dependent upon the character of the alkaline body employed. It is not indifferent whether we employ potash, soda, or ammonia combinations.

As far as concerns the other component, it likewise exercises an influence, but the latitude in variation, it is not so great, inasmuch as hitherto no substance has been found which could be advantageously substituted for pyrogalllic acid.

Let us consider the alkalis which are used in combination with pyro for development.

Caustic ammonia was at one time exclusively used. However, the desire arose for a body which, in solution, did not present so great instability in respect to its strength as liquor ammonia, consequently carbonate of soda was selected.* Then arose the soda developer; then the potash developer followed. Of the three mentioned, soda developer, at the present time, has the preponderance. It is energetic in

its action, and in its full strength, after 2 or 3 minutes, brings forth the impression produced by the weakest action of the light. It may be on account of this rapidity of developing that the soda developer is preferred to the ferrous oxalate in developing the color sensitive plates (ortho-chromatic), which are apt to fog by the slightest increase of time used in developing.

With this energetic action, is associated a rapid communication of brown color to the fluid, which operates unfavorably upon the resulting negative. The too rapid development, as well as the browning of the developer, induced me to experiment with other alkaline reagents, in combination with pyrogalllic acid. I tried carbonate of ammonia, and made up the following solution:

A.	{ Water	1000 g.
	{ Carbonate ammonia..	30 g.
	{ Sulphite soda	70 g.

The sulphite of soda was analogous to that in the new formula for soda developers.

The pyrogalllic acid I employ in the fresh state in powder, and not in solution, inasmuch as all oxydation is thus avoided, and the acid acts with its full strength. Besides, the plan is much more convenient. To every 100 ccm. of the above mixture, I add 9 g. of pyro.

In order to test the action of this developer, I exposed under the sensitometer a strip of gelatine plate which had been bathed in an alkaline eosine solution.

On developing, the following results were obtained:

1. The developer with carbonate of ammonia kept clean longer than the soda developer.
2. The developing progressed gradually.
3. The color of the silver deposit was darker than with soda.

There was a marked difference to be perceived in the employment of carbonate of ammonia and carbonate of soda in combination with pyrogalllic acid.

Mixed soda and ammonia carbonate developer was now tried, and the fact was noticed, that the conserving action of the carbonate of ammonia was manifest, even

* This instability may be avoided by employing, instead of the caustic ammonia, a solution of an ammoniac salt; for example, nitrate or citrate of ammonia, which is more permanent, and which, by the addition of a strong alkali, immediately before using, liberate free ammonia.

when relatively minute additions were made.

Inasmuch as the developer with carbonate of ammonia exercises a weak reducing action, it may be added as required, in varying quantities, to the soda developer. I find the following formula effective in practice:

Soda Ammonia Developer.

Water.....	1000 g.
Sulphite soda.....	80 g.
Carbonate soda.....	25 g.
Carbonate ammonia.....	5 g.
Pyrogallic acid.....	9 g.

The application of the carbonate of ammonia thus proving itself advantageous, induced me to extend my investigation to other alkaline reagents. I directed my attention to bi-borate of soda, or, as it is commonly known, borax, whose alkaline reaction is well established. But with this salt, I obtained only negative results, inasmuch as the fluid, composed of a solution of borax and pyrogallic acid, did not have the slightest developing action upon the plate. The exposed plate lay perfectly white in this fluid, and even on the application of soda ammonia developer, no image was produced. It was only after all the borax had been thoroughly washed out under the tap that the development with the regular developer could be accomplished. From this it seems that the borax does not destroy the latent image, but merely retards the reducing action of the alkaline pyro.

Perhaps this peculiarity might be of use; for instance, if a drop of a solution of borax be added to every 10 ccm. of developer, the image will develop with great clearness.

The next alkaline material which I employed was caustic lime. A piece of marble was heated to high heat in a perforated crucible to drive off the carbonic acid, and then placed in distilled water. To this lime water was added pyrogallic acid, and the mixture employed as a developer.

The image appeared rapidly, showed the finest details after fixing, and possessed a brown tone. The lime water would be very convenient in its application; all that

would be necessary would be to add fresh water to the stock flask, and shake up the contents. The objection is, it gives a violet-brown color in combination with pyro, and makes the solution soon turbid, disturbing the progress of the development.

Gallic acid likewise gives with lime water an intense blue color.

Hydrochinon with lime water, as a developer, is very energetic. The mixture colors brown, but remains tolerably clear. If, in place of the lime water, baryta water with pyro be used, or with hydrochinon, no perceptible advantage is had, and the brown color is also present.

It follows that the alkaline earths give powerful developers with pyrogallic acid, but the fact of the production of the intensive discoloration of the fluids, and the formation, by the action of the air, of insoluble carbonates, interfere with the employment of the same in a practical manner.—DR. O. LOHSE, *Photo. Correspondenz*.

A New Intensifier for Dry Plates.

JOHN G. CASSEBAUM.

The following formula for intensifying gelatin dry plates is the result of practical investigations. It has been found to work admirably in building up a plate, being gradual in its action, energetic, and at the same time perfectly under control, so that any degree of intensity may be obtained.

It is necessary first to submit the plate to a preliminary bath, to render it slightly acid.

I have found that the following is of the proper strength:

PRELIMINARY BATH.

Nitric acid.....	10 drops.
Water.....	20 oz.
Chrome alum.....	1 oz.

Citric acid or acetic acid may be substituted for the nitric, in the proportion of 1 oz. to 20 of water.

The plate is removed from this bath, rinsed under the tap, and placed in the following solutions:

A.

Take 120 grs. of gallic acid,
1 oz. alcohol.

B.

Silver 30 grs.
Water 1 oz.

Of these stock solutions take 1 dr. each, and add to 1 oz. of water, flow the plate over with it until the required density is obtained. Then wash in the usual manner.

Studies.

BY W. ADCOCK.

Abstract of a paper read before the Photographic Conference.

By the title I give to this short paper, I mean detached parts of pictures, as distinct from those composites which, when joined up and employed, we, in a certain sense—not its highest—call a picture. If, in a landscape, we take foreground, middle and extreme distance, we get the elements necessary to a picture. If, of these, we take one section only, we should probably call it a view. Now if, out of the foreground, we took a large thistle and produced it separately, we might, however pictorially it was treated, very properly consider it a study.

Similar ideas apply to figure. To get a picture, we should look beyond a mere bald figure for accessories to give completion to it. In the production of a large and elaborate photograph, we can easily see how necessary it would be to study every part separately. The pose of a model, the turn of a head, the exact expression, the disposal of the hands, the folds of drapery, the position of a chair—all would be worked out, not merely by thinking of, but by producing pictorially. In this, photographers only follow in the wake of painters, who, fortunately for the world, give it their first and upward thinkings towards perfection, in the forms of studies.

We know how a painter, when thinking of a great work, first makes studies of its parts, then of its components as a whole—often more than once—before he decides how he will treat his finished work. It has

been so from the earliest days of art, and the studies of the old masters are amongst the treasures of the world.

It is, I take it, safe to predict that a great master in photography, before deciding upon such a work as "Dawn and Sunset," and while the subject is incubating in his mind, would make many studies of its parts. But I aim to-day at creating an interest in one special class of studies. If we go the Kensington Museum we find studies of hands—for instance—that, from the interest attaching to them, are almost priceless. Why is this? It is because of the marvellous beauty of their drawing. It is notorious that, to the incompetent artist, hands are more difficult to draw than faces; and it is common to find, in otherwise fine pictures, a shirking of the hands. They are often an indication of something left to the imagination to say what. In new pictures remonstrance with this defect is met with the remark, "Oh, do not detract from power of the head by minor details." This interpreted means, "We don't profess to paint hands." Yet, hands give great scope to the master for brush-drawing. Can we, by camera and lens, take hands or feet, enlarge them to life-size, and produce perfect drawing? Can we not produce every line of graceful beauty found in the hand of girlhood, the muscular vigor of manhood, and the loose wrinkled skin of age, with a fidelity few capable draughtsmen would spend time in producing? Before we give a negative reply to this, I say, let us try.

Is another hint here? Would hands, and feet, and eyes, and ears, so produced, have value as copies in our schools, Board and otherwise, were drawing is now so largely taught? This seems to me a question for a professional. I hold up the hint in large letters. If worth anything, use it; if not, let it go.

Perfect drawing, to the trained eye, is ever a thing of beauty. With the lens, perfect drawing can be unquestionably obtained by taking small, and enlarging.

What to-day would be the value of a photograph of the hand of Wellington, or say the sword hand of Murat? If these things would be prized by a nation, will an

exact portrayal of your hand be without interest to your grandchildren?

The power of enlarging given to amateurs by bromide paper is almost illimitable. I am a convert to this, that he who will afford a large lens with advantage, may; while he who will be content with a small rapid rectilinear (say 8 inch focus) may produce splendid work, both directly and by enlarging. And here, at the risk of telling those who know, I tell all who do not, a lens that will take a plate sharp to the edges, will enlarge that plate to any required extent. With the size I have named, I take $7\frac{1}{2}$ by 5, and enlarge up to 23 by 17.

I tell you, the facility of enlarging gives you over all these things a power of making of them things of beauty. One advantage is, they are at hand, and you have not to go ten or twenty miles to find them.

Let me say there is nothing in the study which will bear careless manipulation. The diffused bluntness I have held permissible, if not advocated, in large direct work, will not serve in enlargements. A negative must be sharp all over, or those parts out of focus would, by enlargement, be terribly out of drawing; and what I am holding up for is *beauty* of drawing.

To the beginner, and to those who have a bad one, I say, get a good lens. Do not expect, for thirty shillings, an instrument as good as at some makers you would pay five pounds for. Let me not be understood as advocating these studies to the exclusion of other and more extended work—to landscape, to seascape, to figure in every phase. What I say is, that in studies, taken small and enlarged, you have a class of work second to none in interest—work that, by the very care and thought you give it, will befit you for pursuing with more intelligence than you would otherwise possess, every phase of picture of which photography is capable. Some of the studies I have suggested may be considered photography made easy. I may be asked, what scope does a turkey or a brace of hares give for showing the art side? I reply, the lines, the lights, the shadows may be harmonious, and exhibit good taste

from one arrangement, but obtrusive and exhibit bad taste in another.

I enlarge by daylight, and the cost of adapting a camera to the purpose did not exceed 3s 6d. Nothing done to this camera prevents me using it for ordinary purposes.

I cannot forbear saying here, that, apart from my advocacy of hands and feet as specially worthy every one's attention, it is to the studies attainable from the human figure generally, I look for the greatest pleasure, the greatest instruction, and the easiest attainments.

I think, to the amateur, there are some ruts in the photographic road. A certain make of plate may be a rut. Beach's developer is a rut; photographic time-tables are an awfully deep rut. Landscape only, is a rut, and, yes, decidedly! everlasting figure must be another.—*Photo. News.*

Joint Exhibition of Photographic Work, held in New York.

There is no use to dispute with those who decry the claims which photography sometimes makes to a niche in the house of Art, who urge, art is creative, imaginative; photography, the dull bodying forth of prosaic facts. Simply we ask, how much of modern art can lay claim to the exalted function.

Is there no music outside the sublime harmonies of Beethoven or the subtle chords of Chopin?

We do not always want to be up in the seventh heaven of emotion; and when we are in our more terrestrial frame of mind, we can enjoy the simple rendering by photography of the drama of every day life.

Perhaps we were in the sublunar state of mind when we viewed the collection of photographs in Ortgie's Gallery, called the Joint Exhibition, at least we were delighted, and, at the risk of having our judgment called in question by the critics who gauge from the higher levels—we say we never saw a finer collection of artistic photographs.

The show was by no means as large as some others we had seen, but there were examples which out-topped our highest expectations. We shall not say another word about it just now, reserving

another time the privilege of descanting upon the beauties of the individual exhibits; but we must compliment those who had in charge the arrangements, for the excellent manner in which the pictures were hung.

FIRST ANNUAL EXHIBITION OF PHOTOGRAPHS.

Awards of diplomas made by the Board of Judges, March 30th, 1887:

Frank Sutcliffe, professional photographer, Whitby, England, Nos. 372, 373, 374, 375, 376, 377, 378, one diploma for the entire exhibit. Reasons: The Board considers it the best general exhibit of technical skill, combined with artistic treatment as to composition, gradation and tone.

F. P. Cembrano, amateur, Richmond, England, one diploma for No. 314.

J. Prime Loud, amateur, Boston, Mass., one diploma for Nos. 170 and 171. Reasons for the above two awards: "The poetic treatment of landscape composition in which the fine technical skill is lost sight of in the beauty of the pictures."

George B. Wood, artist and professional, Philadelphia, Pa., one diploma for entire exhibit. Reasons: Best choice of subject, and composition.

Frederick A. Jackson, amateur, New Haven, Conn., one diploma for Nos. 257, 258, 260, 263, 265, 266, 267.

John L. Stettinius, amateur, Cincinnati, O., one diploma for Nos. 236 and 237, excepting pictures in 236, entitled "The Jumper and the Diver."

P. H. Emerson, amateur, Cheswick, England, one diploma for Nos. 320, 321, 322. Reason for above awards: "Best selection of motive and management of delicate gradations, that render the simplest subject full of interest."

John E. Dumont, amateur, Rochester, N. Y., one diploma for Nos. 268, 269, 270.

Alfred Clements, professional, Philadelphia, Pa., one diploma for Nos. 103, 104, 105, 106, 107, 108, 109, 110, 111, and 112.

Prof. Henry A. Rowland, amateur, Johns Hopkins University, Baltimore, Md., one diploma for Nos. 278, 279, 280.

Robert S. Redfield, amateur, Philadel-

phia, Pa., one diploma for Nos. 82, 83, 84, 85, 86, 87.

John G. Bullock, amateur, Philadelphia, Pa., one diploma for Nos. 88, 89, 90, 91, 92, 93.

J. P. Gibson, professional, Hexham, England, one diploma for Nos. 368, 369. Reasons for above awards: Best technical excellence with much artistic feeling in choice of subject.

Horace A. Latimer, amateur, Boston, Mass., one diploma for Nos. 176 and 177. Reasons: Best photographs from paper negatives.

John L. Stettinius, amateur, Cincinnati, Ohio, one diploma for pictures, entitled "The Jumper," "The Diver," in No. 236.

Walter A. Clark, amateur, New York, one diploma for No. 274. Reasons for above awards: Best examples of instantaneous photography.

Franklin Harper, amateur, New York, one diploma for No. 6. Reasons: Best interiors.

C. W. Canfield, amateur, New York, one diploma for Nos. 300, 301, 302, 303, 304. Reasons: Best blue prints.

P. H. Mason, amateur, Peekskill, N. Y., one diploma for No. 255. Reasons: Best enlargement by an amateur.

John Bartlett, amateur, Philadelphia, Pa., one diploma for Nos. 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29.

G. West & Sons, professionals, England, one diploma for Nos. 324, 325, 326, 327, 328, 329, 330, 331, 332, 333.

J. G. Sinclair, amateur, West Hartlepool, England, one diploma for Nos. 334 to 355, inclusive. Reasons for all above awards: That they are good technically.

Mrs. Robert W. deForest, amateur, New York, one diploma for Nos. 250 and 251. Reasons: Best ladies' exhibit; especially good for choice of subject and technical excellence.

Miss Evelyn Welsh, amateur, New York, one diploma for Nos. 243, 244, 245, 246, 247.

Miss Elizabeth A. Slade, New York, one diploma for Nos. 276 and 277. Reasons: Second best ladies' exhibit, good selection of subject.

Robert S. Redfield, Philadelphia, Pa., one diploma for best set of six lantern slides.

Frederick Jackson, New Haven, Conn., one diploma for best transparency.

JAMES D. SMILLIE,
E. WOOD PERRY, JR.
C. Y. TURNER,
GEORGE C. COX,
GEORGE G. ROCKWOOD,

Judges.

Platinum Toning of Prints on Permanent Bromide Paper.

BY LEON VIDAL, PARIS.

In order to give more permanency to prints upon the permanent bromide paper, they may be toned with platinum, similarly to the manner in which albumen silver prints are toned with gold.

After developing the image with ferrous oxalate, and washing the print in water acidulated with acetic acid, it is placed in the following bath:

Bichloride of platinum.....1 gramme.
Water.....2 litres.
Pure hydrochloric acid. 20-30 gr.

The prints remain in this solution from 20 to 30 minutes. They are reduced somewhat, and, therefore, it is best to print them a little strong. To determine whether the platinum bath has acted completely, cut off a small corner of the print, and put it in a twelve per cent. solution of chloride of copper. If all the silver has been replaced by the platinum, the image will remain; if not, it will almost entirely disappear.

To make the picture return, it is washed off thoroughly, and dipped in the oxalate of iron developer. It comes out clear and distinct, and even with a more brilliant tone than at first. The platinum renders the color of the image bluish-black.

After fixing and washing, the print is laid in a five per cent. solution of alum for 10 minutes, to harden the gelatine.

A variety of tones may be had with this new toning process, according to the proportion of sulphate of iron, in connection with the oxalate of potassa, used in the developer.—*Moniteur de la Photographie.*

Something About the Treatment of Chloride of Silver Gelatine Plates for Lantern Slides.

Chloride of silver gelatine plates look very different from bromide of silver plates. They are thin in appearance, and when you look through them, they have an orange color. Although they are very sensitive to daylight, they are much less sensitive to gaslight than the bromide film.

This is, in reality, an advantage, because we can develop them with more safety, not needing the objectionable ruby light, and can examine the progress of development, from time to time, at some distance from a burning gas-flame or lamp.

In diffuse daylight, the exposure is about from 1 to 6 seconds, according to the density of the negative.

If it is desired to expose in the evening, magnesium wire may be employed as a source of illumination, 25 millimeters, at a distance of 22 to 35 c. from the negative. The distance at which the magnesium is burned, is regulated by the density of the negative.

The development is accomplished with a mixture of 3 to 4 parts of oxalate solution to 1 part of iron, with some proportion of chloride of sodium or bromide of potassium solution. If to 50 ccm. of developer 5 to 10 drops of these restrainers are added, there will be an essential modification in the tone of the image. Very warm tones necessitate a longer exposure.

For cold tones, the following should be used:

Hot water (distilled).....100 ccm.
Citrate of potassa..... 27 g.
Oxalate of potassa..... 15 g.

For warm tones:

Cold water (distilled)....100 ccm.
Citric acid.... 24 g.
Carbonate ammonia..... 8 g.

For red tones:

Cold distilled water.....100 ccm.
Citric acid..... 36 g.
Carbonate ammonia..... 12 g.

The last two solutions must be made in tolerably large glasses, and the day before using, because of the violent ebullition of carbonic acid gas.

To every 3 parts of any one of the above, shortly before use, 1 part of the following iron solution is to be added :

Distilled water.....100 ccm.
Sulphate iron 28 g.
Sulphuric acid..... 4 drops.

Keep in stock a 10 per cent. solution of chloride of sodium (salt) and bromide of potassium, and add immediately to the bath, on the slightest indication of fog, in the proportion of 4 to 8 drops to every 100 ccm. Development requires from 1 to 10 minutes. Fixing and washing are done in the usual way.

When by long development, or by some other cause, the plates become discolored, they may be readily cleared, without affecting their tone, by immersing them for a few seconds in

Water400 ccm.
Hydrochloric acid..... 10 ccm.
Strong chloride of iron sol. 5 ccm.

After which, they are well washed. The best results are had with rather strong development.—*Liesegang's Photographisches Archiv.*

Our Picture.

Our picture for the month is by the new Weeks' process—a new method of reproduction—the discovery of Mr. J. H. Weeks. It secures all the details of the original, and gives delicacy of tones and finish. The advantages claimed are perfection of reproduction of the original, even to the faintest and most delicate half tones; cleanness and depth of relief, and ease of manipulation by the printer, reducing the cost of press work to a minimum. The original plate by this process is an electrotype, thus saving the expense of duplication and retaining clearness and sharpness of all the lines. The picture we give is from a negative by Mr. Charles R. Pancoast, and is one of a series of most beautiful views, taken during a visit to India a few years ago. We have selected

the present view as characteristic of the country. Mr. Pancoast kindly permitted us to choose a subject from his collection, but we shall confess the task was a difficult one. Amongst so many beautiful pictures, representing the wonderful tombs and temples of that strange country, we felt the difficulty of settling down upon any one particular view. Like *Oliver Twist*, we wanted "more"—indeed, we wanted them all. We hope at some future time to give our readers the pleasure of seeing more of Mr. Pancoast's excellent work, which combines artistic beauty with perfection of technique.

Mr. Pancoast has kindly given us a description of

A BENGALESE BUNGALOW.

Perhaps in no part of the world are the native houses so picturesque as in Bengal. Here the constructive genius of the native, combined with the many natural advantages, tend to produce buildings which, situated as they are in the midst of luxuriant tropical foliage, if not imposing, are certainly unique and pleasing to the artistic eye. Bungalow is a Hindoostani word, meaning a house or dwelling-place, and is applied indiscriminately to the abode of the lowly ryot or the palace of the prince. Bamboo is universally used as a building material, as, in fact, it enters into the construction of nearly everything in India; its uses being practically unlimited. In Northern India, however, the bungalows are built of sun-dried bricks, with thatched roofs, and are not nearly so attractive to the eye. The building illustrated forms one of a picturesque row, near the Royal Botanical Gardens at Seebpore, a suburb of Calcutta. In size, it would scarcely measure 12 by 15 feet, and certainly not over 8 feet to the peak of the roof. The Bengalese are not a tall race, and to them the limited head room is of no consequence. Interiorly, there is no attempt at furnishing; the wants of the Hindoo are few and simple, while the restricted size of his abode precludes any but the bare necessities of life. To those thirsting for technical information, I would say, that the negative was made on a Wratten & Wain-

wright instantaneous plate, with a Ross rapid symmetrical lens, and developed, under adverse circumstances, while at the hotel in Calcutta. C. R. PANCOAST.

The Photographic Society of Philadelphia.

A stated meeting of the society was held Wednesday evening, April 6, 1887, with the President, Mr. Frederic Graff, in the Chair.

The Secretary read a circular received from Mr. F. C. Beach, of New York, in regard to the American Lantern Slide Interchange. Mr. John G. Bullock explained the details of the plan and offered the following resolution, which was carried.

Resolved, That the Photographic Society of Philadelphia join the American Lantern Slide Interchange, and that the committee lately in charge of the Society's Lantern Exhibition be authorized to collect and distribute the slides, and to carry out the intentions of the Interchange as suggested by the circular.

The chair announced that the committee would consist of Messrs. Galloway C. Morris, Wm. H. Rau, and Wm. A. Dripps.

The Committee on Membership reported the election of Edward A. Selliez, as an active member.

The Executive Committee reported that the new optical lantern, which they had been authorized to purchase, was ready for inspection by the members, and would be used to exhibit slides after the meeting.

The Excursion Committee reported, through Mr. Samuel Sartain, that an excursion was contemplated over the Morris and Essex Canal, starting at Easton, thence to Lake Hopatcong, where a two-days' stop would probably be made; thence to Newark, returning by rail. A week during the latter part of May was suggested for the trip, and members wishing to participate were requested to notify the committee by the next stated meeting (May 4th), or if possible, by the Conversational Meeting, April 20th.

The President appointed Dr. Ellerslie

Wallace, Jr., and Messrs. Bartlett and Samuel Sartain, a committee to conduct the competition for Presentation Pictures for 1887.

The Secretary suggested that those members who had exhibited pictures in New York, send them to the room prior to the May meeting, to be placed on exhibition there during the month of May to members and their friends, and to take part in this competition. It was also urged that the members make this exhibition as large and attractive as possible so that the competition may be a more general one than has heretofore been the case.

A question in the Box asked: "Is there any method of toning positives on glass?"

It was stated in reply that lantern slides were frequently toned in solutions of sulphuret of potassium, bichloride of palladium and bichloride of platinum.

Mr. Walmsley suggested slightly underprinting the slides, bleaching with bichloride of mercury and then toning with sulphite of soda. As the latter acts as an intensifier, it is necessary to print light, or the slide will be too dense.

Mr. Bartlett wished to call the attention of the members to an intensifier for gelatine-plates which he had received from Mr. John G. Cassebaum. It possessed marked advantages over mercury, being gradual in its action, perfectly under control, and affording any degree of intensity required, without interfering with the printing qualities of the negative.

It is necessary to submit the negative to be strengthened to a preliminary bath to make it slightly acid. This bath consists of

Nitric acid.....	10 drops.
Chrome alum	1 oz.
Water.....	20 oz.

Citric or acetic acid may be substituted for the nitric, in the proportion of 1 oz. to 20 of water.

Stock solutions are made as follows:

A.

Gallic acid.....	120 gr.
Alcohol	1 oz.

B.

Silver nitrate	30 gr.
Water	1 oz.

One drachm of each of the above solutions is added to each ounce of water. The plate is put in an ordinary developing-dish and the solution poured over and gently rocked to and fro. The negative will gradually come up and may be carried to any degree of intensity. Mr. Bartlett also mentioned the investigations of Dr. Lohse, on the modifications of the alkaline developers for bromide of silver plates, as published in the *Photographische Correspondenz*."

Dr. Lohse, in his trial of the various alkaline earths, in connection with pyrogallie acid, found that borax (bi-borate of soda), contrary to his expectations, proved perfectly inert, producing not the slightest action upon the latent image. He further found that even the addition of soda or ammonia produced no action, while the borax remained present, the plate lay perfectly white in the dish. It was only after washing out the borax from the film, that the action began and was completed.

The borax does not neutralize the action of the light, but prevents the reducing action of alkaline pyro developer. He accordingly suggests that this salt might be of advantage as a retarder in the developer.

Mr. Bartlett, acting upon the suggestion added 1 drop of saturated solution of borax to the ounce of developer, and found that the addition acted as a clearer of the negative, without any appreciable retardation of the development.

Mr. John G. Bullock showed a chart which had been brought to the meeting by a visitor, which was a valuable aid to those who were called upon to photograph buildings or other subjects requiring to be taken from some special point, to obtain the best effect with a certain sized plate or with any special lens.

A base line was ruled across the bottom of the chart, and a perpendicular line down the centre. From the point of intersection, the angles radiated, and were ruled off on either side of the perpendicular line; every five degrees being shown, red and black alternately, making it easier to trace them up. Perpendicular lines were ruled on either side of the centre, at dis-

tances corresponding to length of all plates used. The central vertical line was graduated in inches and centimetres. Horizontal lines were laid off, of a length corresponding to the longest plate each lens would cover, and at a distance from the base line corresponding to the equivalent focus of the lens. The angle line, intersecting lens line and plate line, would give the angle included and the particular size of plate, and any number of lens foci could be laid down, and the angle of any lens or size of plate could be seen at a glance.

The chart shown was 22 x 26, but angles of lenses of longer focus could be read by taking half the focus and half the length of plate.

Mr. Bullock also mentioned a peculiar circumstance in connection with a copying lens recently imported by Mr. Partridge, a member of the society. It was found that from some cause, at first unaccountable, every plate exposed with the lens was slightly fogged. New baths and developers of all kinds were tried, and camera and dark room were carefully examined for cracks where light might leak in. A critical examination of the lens revealed the fact that owing to the angle at which the inner end of the lens mount was bevelled, its extreme inner edge was struck by some of the rays of light after passing through the lens, and they were reflected in the shape of diffused light upon the plate, thus causing the fog. The difficulty was entirely overcome by use of a card board diaphragm so placed as to cut off these rays before they reached the reflecting edge of the mount.

Mr. Fassitt showed some fine transparencies made on Carbutt's Ground Glass A Plates enlarged in camera from one-quarter sized plates.

Adjourned.

ROBERT S. REDFIELD,
Secretary.

WE have received from Mr. Gentile, the Local Secretary of the P. A. of A., the diagram of the floor space to be occupied in the Chicago Exhibition by the next Convention.

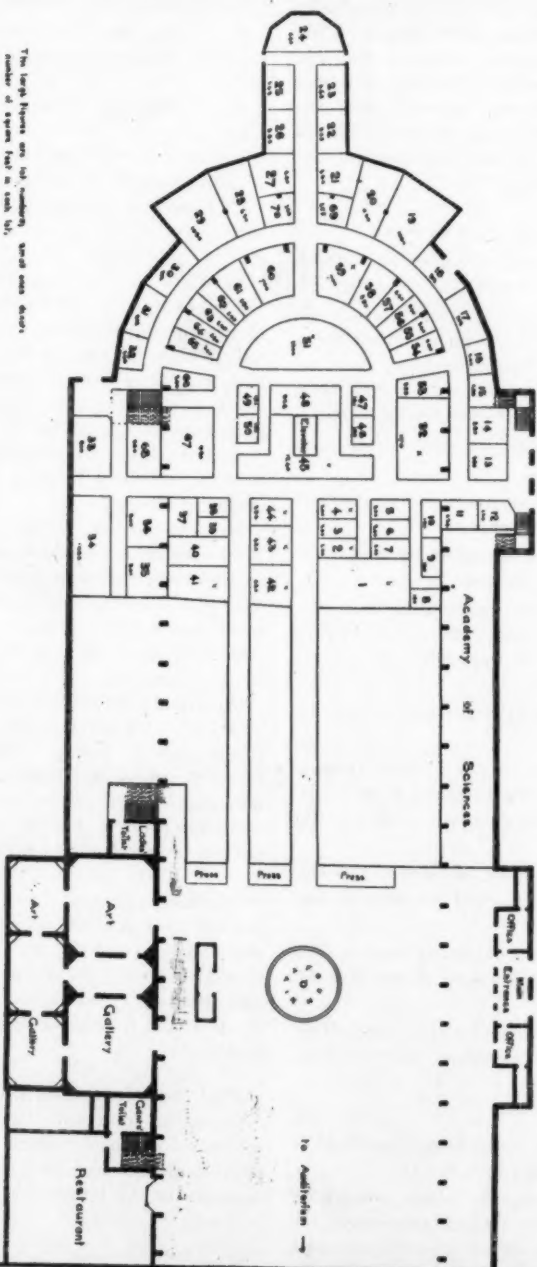
The room looks ample enough to ac-

1887

1887

EIGHTH ANNUAL CONVENTION OF THE N. P. A. OF A.
Ground Plan of South Half of Exposition Building at Chicago, Ill., showing Subdivision of Floor Space.

Scale: 30 Feet to an Inch



The large figures are the numbers of square feet in each lot.
The small figures are the numbers of square feet in each lot.
The small figures are the numbers of square feet in each lot.

PHOTOGRAPHERS' ASSOCIATION OF AMERICA, opening in Chicago, 1887, 9th to 12th August, inclusive.

commodate everybody; and as the gentlemen who have charge of the arrangements are men of energy and business qualities, there is warranty that the affair will be a success. They need, however, the co-operation of the body photographic of the country; but we have not much doubt on this point, either.

RULES AND REGULATIONS

for exhibitors in the Dealers' and Manufacturers' Department:

1. Everyone wishing to exhibit or do business in this department, must be a member of the Photographers' Association of America, and have not less than one hundred and sixty-five feet of space.
2. No one can sublet space, under any circumstance.
3. Floor and wall space will be charged at the rate of $12\frac{1}{2}$ cents per foot.
4. All bills for space must be paid on or before the 9th of August.
5. It is distinctly understood, that anyone applying for space, and not occupying the same, will bind themselves to pay for same.
6. All freight and express bills must be prepaid.
7. The Art and Stock Dealers' Department will be closed each day from 9 A.M. till noon, to secure a full attendance in the auditorium.
8. No signs will be allowed in this Department larger than three feet in any dimensions.
9. Anyone not complying with above rules will not be allowed in the Exhibition.
10. All applications for space should be made as soon as possible, and not later than July 12th, to C. Gentile, Chicago, Ill., Local Secretary P. A. of A.

At the meeting of the Executive, held in Chicago, in January last, it was

Resolved, That one silver medal be awarded for the best improvement in photo. apparatus or accessories produced since the last Convention, on exhibition in the Stock Dealers' Department.

EXECUTIVE BOARD, 1887.

- G. Cramer, St. Louis, Mo., President.
 G. M. Carlisle, Providence, R. I., Treasurer.
 H. S. Bellsmith, Buffalo, N. Y., Secretary.
 J. Landy, Cincinnati, Ohio.
 W. V. Ranger, Syracuse, N. Y.
 C. Gentile, Chicago, Ill., Local Secretary.

WE have received from William H. Rau & Co., of this city, a number of enlargements on the Eastman bromide paper, which have all the qualities of fine steel engravings. The high-lights are clear, the shadows rich, and the intermediate tones possessed of fine gradation.

Such work as this should make this kind of print popular with those who delight in artistic pictures.

Mr. Rau gave us, in the last number of the JOURNAL, his method of manipulation by which the excellent results are secured. We may say, that many of the enlargements upon bromide paper at the recent Joint Exhibition, in New York, were made by this firm.

We are also in receipt of several lantern slides of views taken by Mr. Rau during a recent trip to Europe. For softness of tone, clearness and brilliancy, they have no equal. They are by the ordinary wet collodion process; but the toning is by a peculiar method, the result of experiment.

WE have received specimens of photographic card mounts, manufactured by the Philadelphia Card Co., the quality of which is most excellent, and the colors varied and pleasing. We notice several new shades which cannot fail to become popular.

THE *Post Express*, of Rochester, N. Y., contains an interesting account of a visit to the Grundlach Optical Works. The process of manufacture by which the good qualities of the lenses are secured is described.

SOME things in photography seem to have a definite orbit of revolution, at least

they return at stated periods, like the comets, and those who direct attention to their return imagine them to be new. We have lately received inquiries about the method of working "surprise pictures," photographs in which the same person poses at the same time, on the same card, in two different attitudes.

The inception of these two-fold blazons of oneself dates back to early collodion days. They require no special apparatus to create them. A simple rod is attached by one end to the front of the camera—so that it can move in a small arc in front of the lens; to the free extremity, a black card is attached in such a manner that when the lever is moved it will cover with its image one-half of the ground glass; a mark is made upon the glass, the figure posed in attitude No. 1, and the exposure made upon the uncovered side. The second exposure is made after covering the first, and must be of exactly the same time, otherwise a line of demarcation will be visible down the plate. It requires a little care to properly adjust the positions, but otherwise the operation is easily performed.

MANAGEMENT OF LIGHT AND SHADE.—

In a picture there must be a principal light; all the others should be subordinate to it, and should become fainter towards the extremities of the canvas. The same principle holds good in shadow, but in the inverse way; that is to say, the strong values ought to lessen in approaching the centre.—COUTURE, *Conversations on Art*.

An Unsuspected Cause for the Fading of Albumen Prints.

C. Fiedler, in No. 13 *Deutsche Photographische Zeitung*, is of opinion, that the rose coloring-matter used in tinting the albumen paper is responsible for the fading of silver prints. He is surprised that the attention of photographers has not been directed to this source, instead of hurling their invectives against poor hypo, which he thinks is often blamed unjustly.

Any one may be easily convinced of the ill-effect of the rose coloring-matter. If a photograph on the rose paper be exposed to the light for a long or short period of time, it will be found that in the portions of the paper covered by the rabbit, or mat, the color remains unchanged, while in the parts where the light acts, there will be found the ominous yellow tinge. A decomposition of the rose color takes place which in time injures the whole picture.

Fortunately the ill is not universal. Every variety of paper is not subject to it. The products of certain celebrated makers have yielded good results, with no tendency to yellow. But very many apparently excellent papers are rapid in their deterioration. Consign to oblivion all aniline colors for albumen paper. Collodion paper has the advantage as far as durability is concerned.

Mr. Fiedler has had prints both upon collodion paper and ordinary albumen paper, hanging in his studio for three years, and has noticed that those upon the collodion are as brilliant and clear as if they had been made but yesterday, while the albumen prints are pale and wan, notwithstanding the good and conscientious washing they received over the former, which were only slightly washed.

Distortion in Large Heads.

From the same excellent "Year Book" of Dr. Eder's, we extract the following by F. Müller, of Munich:

To make large heads, lenses are often employed which are totally inadequate to the work.

The nearer a portrait double objective stands to the model, the more apparent are the faults which have their origin in the fundamental laws of optics. At short distance, the head and figure spread out. The objective is like a person who sees with one eye; while a proper proportion can be had only by double vision. At short distance, the head has a flat appearance, as viewed through a double lens.

A photograph of a head taken with a stereoscopic camera, gives us, if the angle of view is correct, a proper idea of the

actual head, whilst every image viewed singly is distorted.

I invariably employ, therefore, for large heads a single lens, and prefer the fore lens of a five inch double objective. To be sure, the head is not as sharp, but the want of sharpness is diffused and not too manifest, the eyes are not at all offended by it, and as enlarged heads are supposed to be viewed at a little distance, the effect is good.

A long exposure is necessary in consequence of the length of focus being increased, but with our very sensitive plates, now-a-days, this is not very serious. I would rather offer a little sacrifice of rapidity of exposure than not to secure the beauty and plasticity of the model. Let us have the softness which is more in accordance with nature than excessive sharpness.

Permanency of the Latent Image.

Dr. Heid writes, in "Eder's Jahrbuch," 1887, "I shall mention the fact, that I lately developed bromide of silver gelatine plates which had been exposed three and a half years ago, and secured negatives as perfect, as rich in detail, and as free from fog, as I have obtained by development immediately after exposure.

The plates had not suffered any deterioration from fog around the margins, notwithstanding they were merely packed in paper, and kept in my dark-room.

It should be mentioned, that the emulsion was without ammonia or carbonate of ammonia in its constitution; from which, it would seem, that the acid emulsion yields more durable plates than an alkaline one."

Dr. Heid advises the amateur, when pressed for time to develop themselves the plates, and when they are obliged to intrust the operation to a professional, to be sure to give sufficient time to the exposures.

CONCENTRATION.—A work should be all of a piece, and people and things should be there for an end. I wish to put strongly and fully all that is necessary; so much so,

that I think things weakly said, had better not be said at all, because they are, in a manner, deflowered and spirited; but I profess the greatest horror of uselessness (however brilliant) and filling up. Such things can have no result but to take off the attention and weaken the whole.—MILLET to PELLOQUET, in Sensier's *Jean Francois Millet*.

BOOK NOTICES.

"The Student" is a neat magazine published at Germantown, Phila., devoted to the interest of education. The contributions are upon a variety of subjects connected with the training of teachers, and the instruction of youth. The composition is excellent and in the best English, so that the periodical is really itself an educator in the cultivation of grace of style, and purity of language.

"How to Make Photographs" is a useful little book, published by E. & H. T. Anthony, of New York. It is intended solely for beginners. The author treats the subject in a clear manner, giving the incipient photographer instruction in a straight-forward way, without distracting the attention by too much detail.

The appendix, by Dr. Elliott, of the *Photographic Bulletin*, brings the work up to the needs of the present demands of comfortable photography.

"The Microscopical Bulletin and Science News," edited by Edward Pennock, and published by James W. Queen & Co., 924 Chestnut street, Philadelphia.

This bi-monthly magazine is full of valuable matter, of interest to the investigator of minute organisms. It contains an account of the recent improvement in optical appliances and methods of research. The papers from foreign journals are well selected, and the original contributions are excellent. Altogether, the magazine is ably edited by one who evidently is a practical worker in the science, and who, therefore, knows just what is of value to fellow-microscopists.

THE *Connoisseur* is a quarterly magazine of art, published by Bailey, Banks & Biddle, Philadelphia. The March copy is a beautiful number. The illustrations are excellent artistic renderings. The frontispiece is a fine, original etching by Ferris, after Meissonier. The literary contributions are from the pens of the best writers of the day on art matters, and make very pleasant reading. All who are interested in decoration and house ornamentation will find the magazine of great service in directing their taste. We can scarcely believe that so much of excellence is offered to subscribers for 50 cents a year.

A LEGAL proceeding, affecting an important industry, is pending in Syracuse before Judge Wallace, of the United States Court, by the Eastman Dry Plate Company which obtained an injunction restraining E. & H. T. Anthony & Co., of New York, from infringing letters patent No. 358,848, granted March 8, 1887, to George Eastman and William H. Walker for apparatus for manufacturing sensitive photographic films. A motion to make the injunction perpetual will be argued in New York.

April Bargain List.

Accessories:

1—Papier Mache, Fire Place and Cabinet combined, fair condition, reduced to	4 00
1—Papier Mache Pedestal and Base, good order	2 00
1—Universal Position Chair, Crimson Terry; all Attachments except Baby Chair; good as new	30 00
—Spencer Head-rest	11 00
1—Drapery	4 00
1—Drapery	6 00
1—Centennial Camera Stand, in good condition	8 00
1—Papier Mache Log, 2 feet long	2 00
1—8x10 Osborne Interior, new, light left of sitter	16 00
1—Pharaoh Position Chair	20 00
1—Seavey Rock, new	4 50
1—Seavey baby shell, with background, complete	4 00
1—5x8 Eastman's Roll Holder, in good condition	15 00
1—8x10 Eastman's Roll Holder, good as new	20 00
1—8x10 Hough's ground, light left of sitter	12 00
1—8x10 Seavey Interior Ground, new	21 00
1—8x8 Seavey Ground, new	15 00
1—8x8 Seavey Sea Shore Ground, new	13 00
1—8x8 Seavey Ground, new	15 00

Camera Boxes.

1—5x8 Tourist Outfit, including 5x8 Tourist Camera Box, 2 Daisy Plate Holders, 1 Extension Tripod, and 1 Canvas Carrying Case, very little used. Price, new, \$40.50, will sell for	30 00
1—5x8 A O Co. first quality box, 4 double holders, carrying case tripod with 1 5x6 Dallmyer R R Lens, used very little, good as new	68 00
1—4x5 Equipment, No. 4, Anthony's View Camera and 6 Holders....	12 00

Lenses.

1—1-4 Size Darlot Gem Lens	3 00
1—Ross Symmetrical Lens, 4½ inch focus, 5x8 plate full	25 00
1—Finder	2 25
1—Prosh Shutter No. 2, Pneumatic release	10 00
1—Matched pair German Stereoscopic Lenses, in good order	15 00
1—Matched Pair imitation Dallmeyer Lenses, per pair	12 00
1—Abendroth Lens, 5x8	18 00
1—4x4 Dallmeyer Port Lens	50 00
1—4x5 Dallmeyer View Lens	6 00
1—5x8 " "	15 00
1—Woodward Condensing Lens....	10 00
1—4x4 Darlot Globe Lens	25 00
1—No. 5 A 4x4 Voigtlander Portrait Lens	45 00

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WANTED.—Situation as first-class Printer; can operate, if necessary; good wages required; good reference. Address J. B. Holyer, No. 2½ Chamberlain St., Rochester, N. Y.

WANTED—Position in a first-class Gallery as retoucher or printer; best reference, Address L. Wendenburg, College Hill, Easton, Pa.

WANTED—Situation by a photographer; good printer, toner and finisher, with some experience in operating. Best reference. Address Jacob Sheidt, P. O. Box 317, Ashland, Ohio.

Superior Mammoth Voigtlander Tube, the property of a retired photographer, will be sold low. Apply at the Husted Studio, Ridge Ave. and Wallace St.

WANTED—By a young man of several years experience, a position as Printer and Toner, can also retouch and make himself generally useful in operating or dark room. Address A. H. Blencowe, Lynchburg, Va.

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A Monthly Magazine of the Agassiz Association.

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Press Comments on the First Number of "The Swiss Cross."

"Altogether, this first number is an extremely creditable production, and of a nature to convince us that *The Swiss Cross* will not be content with hurling hard, technical facts at the heads of its readers, but will inspire them with a desire to go to nature's open volume to study her secrets and admire her charms, rather than to learn her by second-hand from books. *It is a splendid periodical to put in the hands of young people*, to develop in them, at an impressionable age, the scientific spirit, that they may cultivate the habit of carefully observing the world about them."—*The American Hebrew*.

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Rochester, N. Y.

St. Louis, Mo., April 16, 1886.

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Yours truly,

G. CRAMER.

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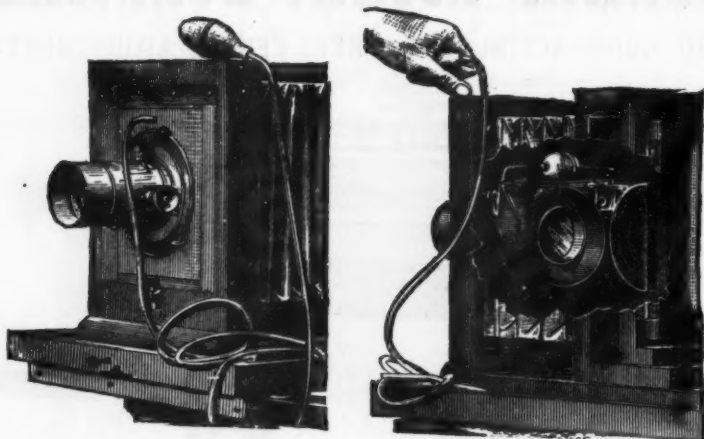
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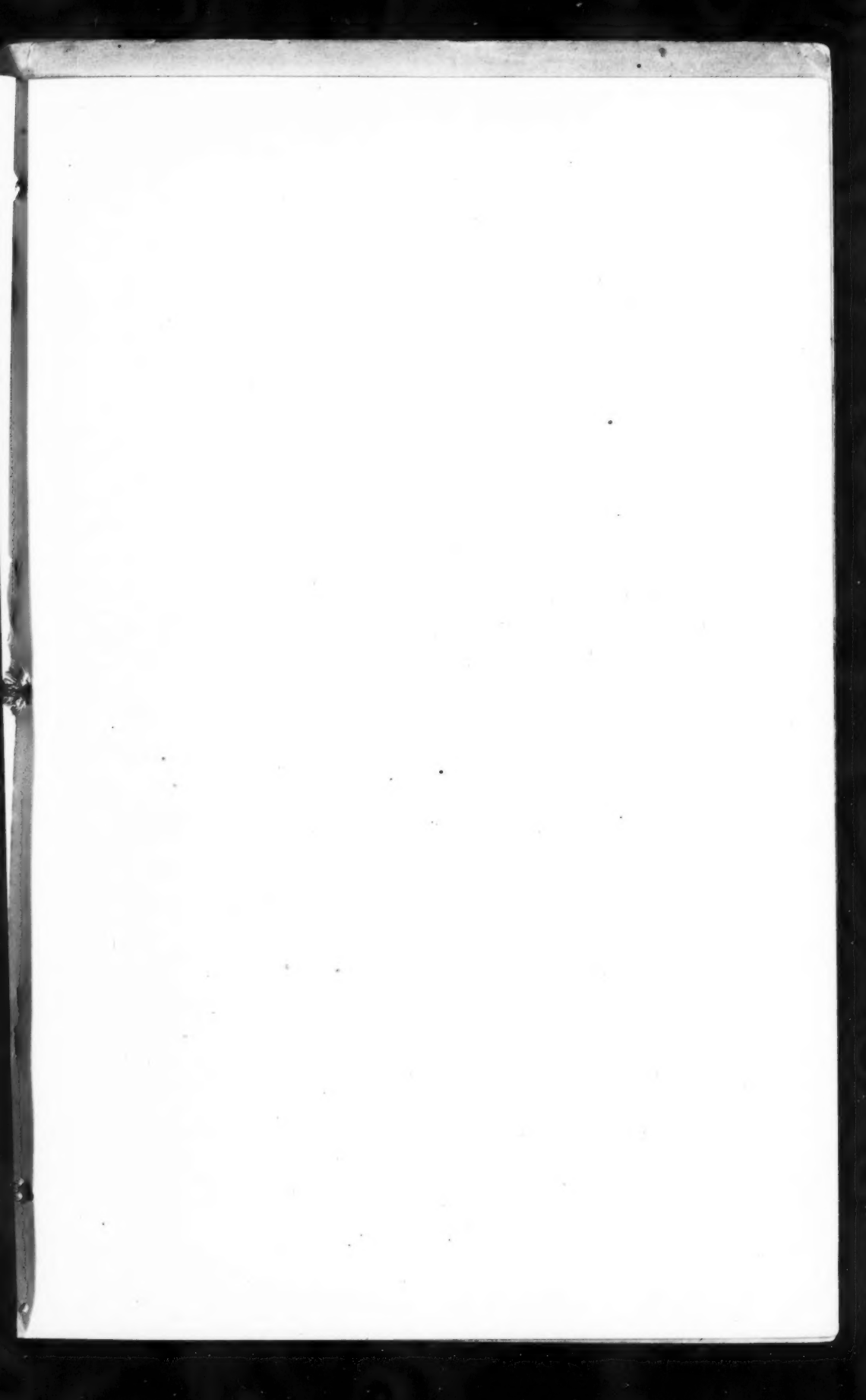
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